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Fertility Awareness Methods (Natural Family Planning)

The woman and her family were undergoing hard times for the past 18 months. Because of the chaos in their lives, it had not been a good time to get pregnant, she said. At the same time, it was impossible to get family planning methods to prevent pregnancy because of disruptions in the supply routes. She listened carefully to another villager—a traditional birth attendant (TBA) who knows about women's cycles. It was from her that the woman learned to check her body signs and symptoms and to abstain until it was clear that her fertile days had passed. She and her husband continued to have sexual relations during the time she was not fertile: it helped them feel close and loving and more secure; it gave them some joy in their difficult lives.

Fertility awareness, or *natural family planning*, refers to methods for planning and preventing pregnancy by observing naturally occurring signs and symptoms of the fertile and infertile days of the menstrual cycle. (See Chapter 8 on The Menstrual Cycle and Disturbances.) If these methods are used to prevent pregnancy, the couple avoids intercourse on the days during the menstrual cycle when the woman is most likely to become pregnant (often called the fertile days).[11]

Although sometimes referred to as natural family planning, these methods are not more "natural" than other methods of contraception. Some providers prefer the term “fertility awareness” to avoid the suggestion that some methods are more "natural" than others. “Fertility awareness” is the term used in this chapter.

Fertility awareness is based on two foundations:

- A scientific knowledge of the anatomy and physiology of the male and female reproductive systems
- An understanding of the signs and symptoms that occur naturally during the woman's menstrual cycle to indicate when she is fertile and when she is infertile

TYPES OF FERTILITY AWARENESS

CALENDAR RHYTHM

The calendar rhythm method is based on the fact that most women ovulate 12 to 16 days before each menstrual bleeding, no matter how long their menstrual cycle. The fertile phase is identified by using a mathematical calculation to determine the fertile and infertile phases. However, many couples who say they use the "rhythm" method do not know how to make this calculation and apply it to themselves.

BASAL BODY TEMPERATURE (BBT) METHOD

The BBT method is based on the pattern of the body's temperature at rest. A woman's temperature rises slightly after ovulation and remains elevated during the rest of her cycle until she menstruates. Monitoring the rise in temperature makes it possible to determine when she has ovulated and to calculate when her fertile days have passed. A woman who uses this method takes her temperature every day before she rises in the morning and carefully records it on a chart. She learns how to determine when the temperature shift has occurred. She abstains from intercourse from the beginning of her menstrual bleeding until she has had 3 days of elevated temperatures.

Cervical Mucus Method

The cervical mucus method is based on detecting the changes in cervical mucus secretions and in the sensations in the vagina. Before ovulation, the cervical mucus becomes slippery and stretchy. The mucus changes are greatest around the time of ovulation. After ovulation, cervical mucus becomes thick or may disappear completely. A couple using this method to avoid pregnancy will abstain from intercourse when the mucus indicates the woman is fertile. They also abstain during menstrual bleeding. These couples should avoid intercourse on alternating days before the appearance of cervical mucus so that the presence of semen in the vagina does not change the natural appearance of the mucus.

Symptothermal Method

The symptothermal method combines recording the BBT with observing the cervical mucus and other physical signs of ovulation. These signs include tenderness of the breasts, midcycle pain, spotting or bleeding, and abdominal heaviness. A woman also may examine her cervix for changes in its position, degree of opening, and texture. When a couple is using the symptothermal method to avoid pregnancy, they abstain from intercourse from the first appearance or sensation of wet cervical mucus until after ovulation has been confirmed by 3 days of elevated temperature or 4 days of post-ovulation mucus.

Abstaining from intercourse on the days of the menstrual cycle when the woman's signs and symptoms indicate she may become pregnant is often called “periodic abstinence.” This practice has long been common in many cultures throughout the world, particularly in Africa. Unfortunately, periodic abstinence has often been based on a misunderstanding of fertility rather than on accurate knowledge and understanding.[5] The challenge to family planning providers is to provide correct information to African couples and to assist them in adapting their sexual practices so as to avoid pregnancy.

OVERCOMING BARRIERS TO USE

Perhaps the greatest barrier to the use of fertility awareness is that both clients and providers often lack the knowledge needed to use it effectively. Many women (and men) actually know very little about the physiology of reproduction. This barrier of ignorance leads to a second barrier: teaching takes time, and time is a scarce resource for many health care providers.

Overcoming a lack of knowledge about fertility is important. Family planning workers can hold group classes just before or after a session of individual visits. They can also ask knowledgeable clients to be volunteer class leaders. Traditional birth attendants (TBAs) can be asked to teach the women whose infants they deliver. On a community level, teachers and family planning workers can instruct students in schools and workers in places of employment.

Another barrier to using fertility awareness is that people have a prejudice that traditional methods are not as effective as modern ones. Yet, when the modern methods are not available because the client or the family planning distributor has run short, traditional methods such as those based on fertility awareness or withdrawal may be the only available means of avoiding an unplanned pregnancy.

MECHANISM OF ACTION

Fertility awareness methods are based on two major facts:

- The man's sperm can live in the woman's reproductive tract for 3 days.
- The woman's ovum can be fertilized before and on the day of ovulation.[11]

If the couple can estimate when a woman will ovulate at least 4 to 5 days in advance[10] and if they can identify when ovulation has occurred, they can then adjust their sexual practices, depending on whether they want a pregnancy.

EFFECTIVENESS

Effective use of fertility awareness methods requires that couples understand how to identify fertile days and then appropriately adapt their sexual behavior. Unintended pregnancies are primarily related to the user rather than to the method itself. A sizable but unknown portion of these pregnancies is due to improper teaching and poor use of the method.[7,8] Experts at the World Health Organization suspect that sexual risk-taking during the fertile days accounts for more accidental pregnancy than does the inability to interpret charts accurately.[12]

Among typical users, approximately 20% fail during the first year of use.[8,9] Among perfect users, the first-year pregnancy rate should be much lower, ranging from 1% to 9%. However, some versions of the method are more effective than others. The calendar rhythm method would be least likely to predict fertile days accurately and has a first-year pregnancy rate for perfect use of 9%.[8,9] In contrast, when used perfectly, the symptothermal method has a first-year pregnancy rate of 2% and the cervical mucus method has a first-year pregnancy rate of 3%.

Perfect use means that the couple does not have intercourse on the days their method indicates the woman will be fertile. Imperfect use means that unprotected intercourse occurs during the fertile time.

Special consideration must be given to women who are breastfeeding. A breastfeeding woman often has mucus that indicates fertility even though the woman is not ovulating.[1,4] Studies using ultrasound to detect ovarian activity have shown that breastfeeding women experience different patterns of follicular development before they return to normal fertile cycles.[2] (See Chapter 12 on Lactation and Postpartum Contraception.) According to studies conducted in Kenya, Chile, and the United States, breastfeeding women have an increased risk of unplanned pregnancy (versus nonbreastfeeding women) when using the cervical mucus method. However, because breastfeeding in itself decreases fertility, women who were using the cervical mucus method while breastfeeding had a pregnancy rate comparable to that of nonbreastfeeders.[7]

ADVANTAGES AND INDICATIONS

1. Fertility awareness methods produce no physical side effects. Surveys in many African countries indicate that fear of side effects is an important reason why women do not use contraceptives.
2. Use of fertility awareness can increase a woman's self-awareness and couple's knowledge of the woman's reproductive system. The woman observes her signs and symptoms of fertility, and a couple gains the information necessary to practice fertility awareness. Programs in numerous African countries report that clients are highly interested in and capable of learning this information.
3. Fertility awareness users develop self-reliance when they have learned to use the method correctly and do not need to depend on a family planning program or other source to provide contraceptives. This is particularly important in Africa, where family planning services are not available in many areas and systems for distributing contraceptives are often unreliable.
4. Fertility awareness entails no cost once the couple has learned to use the method, unless they are using a temperature-based method requiring a special thermometer.
5. Fertility awareness requires the man's involvement in family planning. Several studies of family planning in Africa stress the importance of male involvement in effective family planning.
6. While fertility awareness services must be provided by trained fertility awareness teachers, numerous studies have shown that community-level personnel, including those with low literacy, can provide services successfully. Many regions in Africa have a shortage of skilled medical personnel.
7. Natural family planning can assist a couple in achieving a wanted pregnancy.

DISADVANTAGES AND PRECAUTIONS

DISADVANTAGES

1. Most couples require at least 3 cycles to use the cervical mucus method or the symptothermal method correctly. During the time a couple is learning these methods, they need frequent contact with the fertility awareness teacher. When the teacher and client are far apart, as is true in many rural areas, the need for frequent contact can be an obstacle.
2. The commitment, motivation, and cooperation of *both* partners are important. Many family planning professionals have expressed concern about the difficulty of involving men, especially when the method requires abstinence.
3. The woman must observe and note her fertility signs and symptoms. For women who lack privacy or who are not literate, record-keeping may be difficult. Some programs have developed simplified record-keeping systems. In some settings, programs have developed systems in which the couple does not need to maintain written records.
4. Fertility awareness methods are less forgiving of user errors, which means they are less effective than some other methods of family planning. Studies are needed to determine the actual use effectiveness of all user-dependent family planning methods in Africa.
5. When fertility awareness methods are used to prevent pregnancy, some couples experience emotional stress as a result of not being able to have intercourse for several days of the woman's cycle. In some cultures, it may be acceptable for the man to have sexual relationships with more than one woman. In these cases, abstinence may apply only to the woman and not to the man (this practice could increase the risk of sexually transmitted infections).
6. Use of fertility awareness methods does not directly protect against sexually transmitted infections, including HIV. In areas of high levels of sexually transmitted infections, methods that maximally protect against infection are warranted.

In cultures where abstinence pertains only to the woman, the man's sexual practices with an alternative partner could increase the spread of infections.

It has long been thought that if the ovum or sperm is aged, there is more chance for abnormal development of the embryo. Two recent studies of pregnancies among women using fertility awareness methods showed no excess risk of spontaneous abortion or birth defects in pregnancies conceived with aged sperm or ova.[3,10]

No matter what other methods of contraception a woman is using, if she is at any risk because her partner tests HIV positive or because she does not know her partner's HIV status, she should be advised to use plastic or latex condoms with every sexual act.
No other contraceptive method besides abstinence provides the same degree of protection.

PRECAUTIONS

Women with the highest risk of reproductive morbidity or mortality should be advised to use the most effective methods for avoiding pregnancy. For these women, fertility awareness methods may not be appropriate. In addition, experience has shown that women who are partially breastfeeding, have infections that produce a vaginal discharge, or experience irregular cycles may have more difficulty using the method than do healthy women with regular cycles.

Women or couples who have the following characteristics are less likely than other couples to be able to use fertility awareness methods successfully:

- Inability to communicate about sexual matters
- Unstable relationship

- Inability or unwillingness to observe, record, and interpret fertility signs and symptoms
- Inability or unwillingness to abstain from sexual intercourse during the fertile phase of the woman's cycle

PROVIDING FERTILITY AWARENESS METHODS

Surveys in several African countries indicate that many couples use periodic abstinence as their primary method of avoiding pregnancy. Data from recent Demographic and Health Surveys are shown in Table 18:1.

Table 18:1 Percent use of family planning and periodic abstinence in selected African countries

Country	Use family planning	Use periodic abstinence	Periodic abstinence as % of family planning
Burkina Faso	10	4	40
Cameroon	14	7	50
Ghana	20	8	40
Kenya	33	4	12
Senegal	7	1	14
Tunisia	51	7	14
Uganda	15	4	27

Source: Curtis SL et al. (1996); Statistics Department [Uganda] and Macro International (1996).

The women interviewed for these surveys gave several reasons for using periodic abstinence, ranging from fear of side effects from modern methods to religious beliefs to the unavailability of other methods. Although educational programs to dispel myths and expanded efforts to increase the availability of modern methods are important (and are under way in several countries), they are a long-term investment and likely to have limited impact in Africa during the next decade. So, in the short term, fertility awareness methods will remain important.

Efforts must continue to improve their quality, the public's knowledge of them, and the effectiveness with which they are used.

There are also other reasons for supporting the use of fertility awareness methods in Africa—they may fit well within traditional cultural practices, and using these methods does not require highly skilled medical providers (although fertility awareness teachers need to be well trained and supervised). Fertility awareness methods can meet the needs of couples who live in areas remote from family planning services or in areas where distribution systems cannot guarantee a constant supply of contraceptives. Fertility awareness also can be a low-cost approach when viewed from both the individual family or the national perspective: there are no imported commodities to buy that would require the use of hard currency.

Service Delivery Issues for Africa

Two issues related to the effectiveness of fertility awareness methods have particular relevance for Africa: development of services and availability of trained fertility awareness teachers.

Development of services

A study of fertility awareness programs in Zambia and Liberia found that women's risks of unintended pregnancy depended on age, breastfeeding status, urban/rural residence, employment status, whether they enrolled when the fertility awareness program was just beginning or when it was more established, and the frequency of contact with the provider.[6] The most significant factor for successful use of fertility awareness methods was the time at which the women enrolled in a program. Those who enrolled when the program was just beginning (and thus had less well developed services) were at significantly higher risk of an unwanted pregnancy than were those who enrolled later.[6]

Fortunately, a significant effort has been made to develop fertility awareness programs in Africa. Programs now exist in virtually all countries in the region and can serve as direct service providers or trainers of providers in other institutions. Although these programs

suffer from a lack of funding and technical assistance, they can be expected to increase the effectiveness of fertility awareness methods in Africa during the next decade.

Availability of trained fertility awareness teachers

Fertility awareness is an education-based method rather than a commodity-based service. Having a knowledgeable, competent teacher is essential. Teachers in many African countries have been trained by trainers based outside the region. Only recently have a significant number of in-country teacher training programs been developed; however, follow-up with trainers remains a challenge.

INSTRUCTIONS FOR USING FERTILITY AWARENESS METHODS

Fertility awareness methods increase a woman's knowledge of her body and her menstrual physiology, and education and knowledge are two important ingredients for effective family planning. However, these methods do not protect against HIV infection or other STIs.

CALENDAR RHYTHM METHOD

Use a standard calendar or a menstrual diary. Record the length of each menstrual cycle over the most recent cycle or the next 6 to 12 cycles. Call the first day of bleeding in each cycle day 1. The last day of each cycle is the day before the next menstrual bleeding.

- To find the earliest day on which you are likely to be fertile, subtract 18 days from the length of your shortest cycle.
- To find the first day you are no longer likely to be fertile, subtract 11 days from your longest cycle.

If, for example, your menstrual records show that your shortest cycle was 27 days and your longest cycle was 30 days, the first fertile day will be Day 9 of your cycle (27 - 18 = 9) and the first day you are

no longer likely to be fertile will be day 19 (30 - 11 = 19). In this case, you would abstain from day 9 to day 19 of your cycle. Table 18:2 shows the fertile phase, depending on cycle length.

Table 18:2 How to calculate your fertile period

If your shortest cycle has been (# of days)	Your first fertile (unsafe) day is	If your longest cycle has been (# of days)	Your last fertile (unsafe) day is
21*	3rd	21*	10th
22	4th	22	11th
23	5th	23	12th
24	6th	24	13th
25	7th	25	14th
26	8th	26	15th
27	9th	27	16th
28	10th	28	17th
29	11th	29	18th
30	12th	30	19th
31	13th	31	20th
32	14th	32	21st
33	15th	33	22nd
34	16th	34	23rd
35	17th	35	24th

*Day 1 = First day of menstrual bleeding.

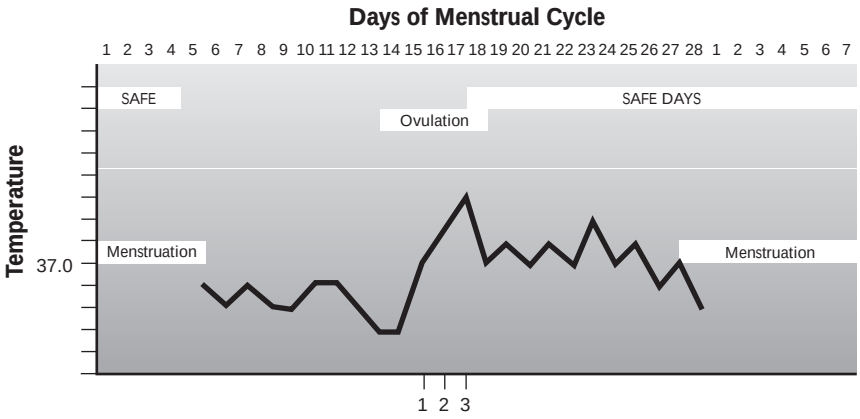
Basal Body Temperature Method

During your menstrual cycle, your basal body temperature (BBT), which is the temperature of your body at rest, rises at least 0.3-0.5° C. This rise is called the thermal shift. Ovulation most often occurs on the day of the thermal shift, 1 to 2 days before the shift, or the day after.

To use this method, follow these directions:

1. Do not have intercourse from the first day of menstrual bleeding until the thermal shift has occurred and your temperature has stayed at or above the higher level for 3 consecutive days. To determine your temperature:
   - Take your temperature before rising each morning (at the same time each day) for the first 10 days of the menstrual cycle. Record the temperature in the special BBT chart.
   - Look at the chart (see Figure 18:1 for an example) to find the highest of the normal temperatures during the first 10 days of your cycle, but disregard any that are abnormally high because of fever or other disruptions.
   - Draw a line 0.15° C above the highest of these 10 temperatures. This line is called the cover line, or the temperature line.
   - Continue taking your temperature every day until your third consecutive temperature is recorded above the cover line.
2. You can have intercourse any time after the evening of your third consecutive high temperature until the beginning of your next menstrual bleeding.

Figure 18:1 Basal body temperature variations during a model menstrual cycle



CERVICAL MUCUS METHOD

To use the cervical mucus method, you must observe and record your cervical mucus signs every day, beginning with the day after your menstrual bleeding ends. The following rules will help you practice this method. (See Table 18:3 for a summary of signs and symptoms during the fertile and nonfertile days.)

1. Do not have intercourse during the days of your menstrual bleeding.
2. During the early infertile phase of your cycle (before ovulation), you can have intercourse on the evening of every other dry day (the days when you do not have any cervical mucus or feel any vaginal wetness). Because semen changes the character of mucus, it is necessary to check cervical mucus on days that semen is not present in the vagina.

Table 18:3 Summary of cervical mucus method

Approximate cycle day: phase	How identified	Intercourse allowed?
1–5: Menstruation*	Bleeding	No
6–9: Dry days	Absence of cervical muscus	On alternate nights only
10: Fecund period begins	Onset of sticky mucus secretion (gradually becomes slippery over following days)	No
16: Peak fecund day	Last day on which slippery mucus (resembling raw egg white) is observed	No
20: Fecund period ends	Evening of the *4th* day after the peak day	After fecund period ends
21–29: Safe period	From end of fecund period until onset of bleeding	Yes

*The cycle begins on the first day of menstruation.

3. The first day you have any cervical mucus or notice any vaginal wetness is the beginning of your fertile phase. You should not have intercourse from the beginning to the end of the fertile phase.
4. The last day you have cervical wetness or vaginal wetness is called your peak day. When you stop having wet cervical mucus or experiencing vaginal wetness, continue to abstain from intercourse for 3 more days.
5. On the morning after your third day of no wet cervical mucus or wet vaginal sensation, you can have intercourse until your next menstrual bleeding begins.

Symptothermal Method

The symptothermal method has several variations. To use this method, you will need to note the length of your most recent 6 to 12 menstrual cycles (see Calendar Rhythm Method), take your temperature daily (see Basal Body Temperature Method), observe and interpret your cervical mucus (see Cervical Mucus Method), and observe and interpret other signs and symptoms such as changes in the position and firmness of your cervix, breast tenderness, and pain between menstrual cycles. You will need to record this information on a special chart and interpret it to determine when you are fertile and when you are infertile.

1. Begin taking your temperature the first day of menstrual bleeding and continue taking it as described for the basal body temperature method. Remember to take your temperature every morning before rising.
2. After your bleeding stops, you can have intercourse on the evening of every other (alternate) day during the time when you do not observe any cervical mucus or feel any wet vaginal sensations or until your first fertile day (as calculated by subtracting 20 from the number of days of your shortest menstrual cycle, whichever occurs first).
3. Abstain from intercourse as soon as you observe any cervical mucus, feel any wet vaginal sensation, or until the day of your cycle indicated by subtracting 20 from the number of days in your shortest menstrual cycle.
4. When your mucus stops or you do not feel vaginal wetness, continue abstaining from intercourse for 3 or more days or until you have three temperatures above the cover line (whichever occurs last).
5. You can have intercourse after the third day from the end of your cervical mucus or vaginal wetness or after your third high temperature, until the beginning of your next menstrual bleeding.

Natural Family Planning Chart

The Menstrual Cycle Chart can help you keep track of your signs and symptoms. (See Figure 18:2). The chart can also be used for the other fertility awareness methods. Follow these instructions to fill out the chart:

In the Cycle Length Box

- Write the number of days in the shortest of your previous six menstrual cycles.
- Subtract 18 from the length of the shortest cycle, and write this number in the next small box (for example, 28-18=10).

In the Temperature Box

- Record the time of day you usually take your basal body temperature.

In the Menstrual Cycle Day Box

- The line of numbers at the bottom of the temperature chart represent the days of your menstrual cycle, starting with the first day of your period. Each day you have sexual intercourse, circle the corresponding day of your menstrual cycle.

To Record Temperature

- After taking your temperature each morning, put a circle in the middle of the square which corresponds to your temperature on that particular date.
- Connect the dots each day with a straight line.
- After recording your temperature for the first 10 days of the cycle, draw a horizontal line on the line just above the highest of the normal low temperatures recorded during those first 10 days. This is called the "coverline."
- Once your daily temperature goes above this coverline, draw a vertical line just before the temperature rise.
- Count 1, 2, 3 temperatures above the coverline.

To Record Cervical Secretions

- After checking the feel, look, and touch of your secretions throughout the day, fill in the box that best describes your most fertile secretion for that day of your cycle. At the end of each day, shade only one box to show what your secretions were like:

  Wet, slippery, transparent, or stretchy secretions

  Non-wet, white, cloudy, or sticky secretions

  Dry, no secretions seen or felt

  Period, for days of menstrual bleeding

To Record Changes in Your Cervix

- If you choose to check the cervix, fill in the box that best describes the most fertile position, feel, and openness of the cervix. At the end of each day, mark the box for only one of the following options:

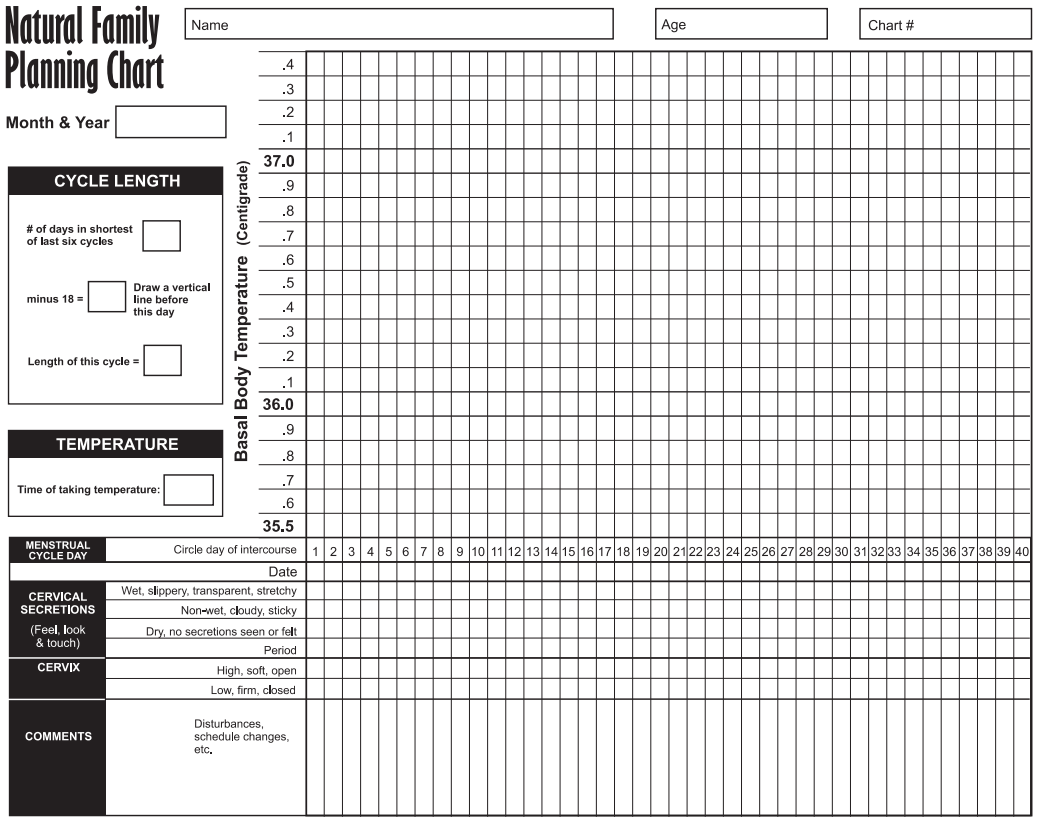
  Low, firm, or closed cervix

  High, soft, or open cervix

To Record Comments

- Use the comments section at the bottom of the chart to record other signs of fertility, disturbances, changes in your daily schedule, and other things that may influence your interpretation of the chart.

Figure 18:2 Menstrual cycle charting



Source: The Institute for Reproductive Health, Georgetown University.

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